

Setting the correct chapter information in your UMD.

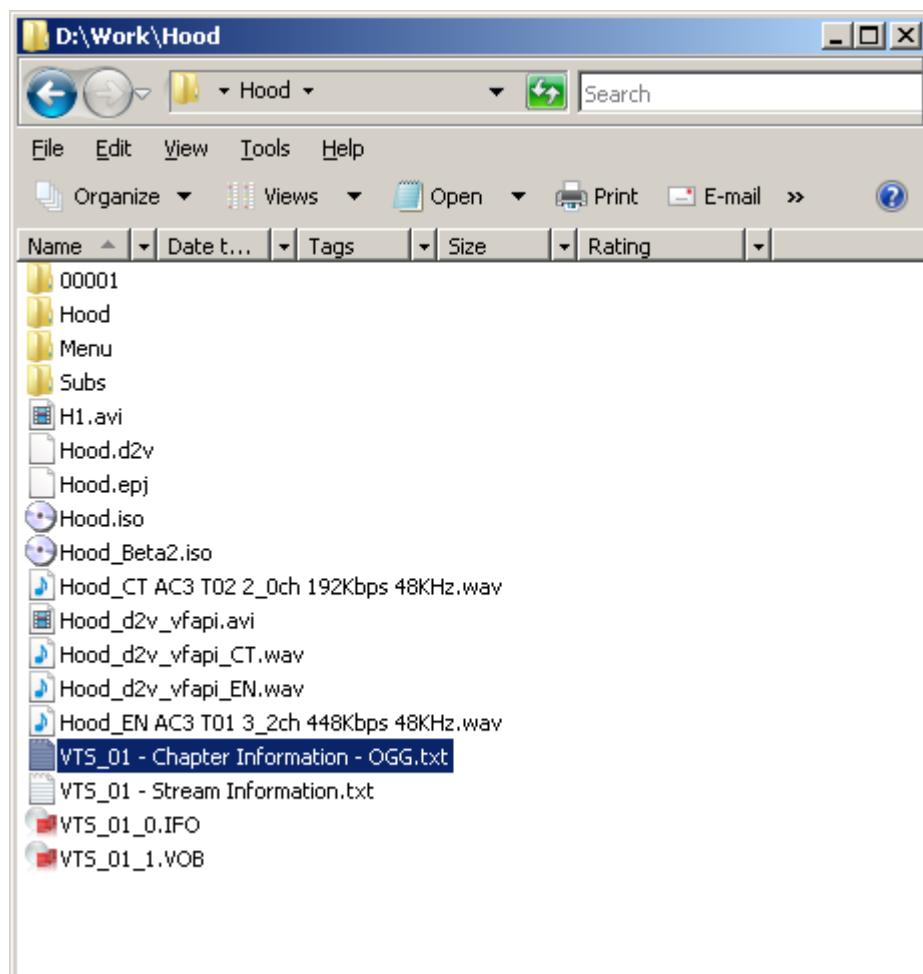
This chapter will describe how to calculate and set correct chapter information in your Video UMD. The chapter is divided into two parts: **Calculating the chapter times** and **Setting the chapter times**. If you use a DVD source you will have obtained the chapters from the DVD during the copy process. Some MKV files also include chapter information. If you use a source with no chapter information then you can skip the first part (calculating) and go straight to the second part (setting).

Tools needed in this chapter:

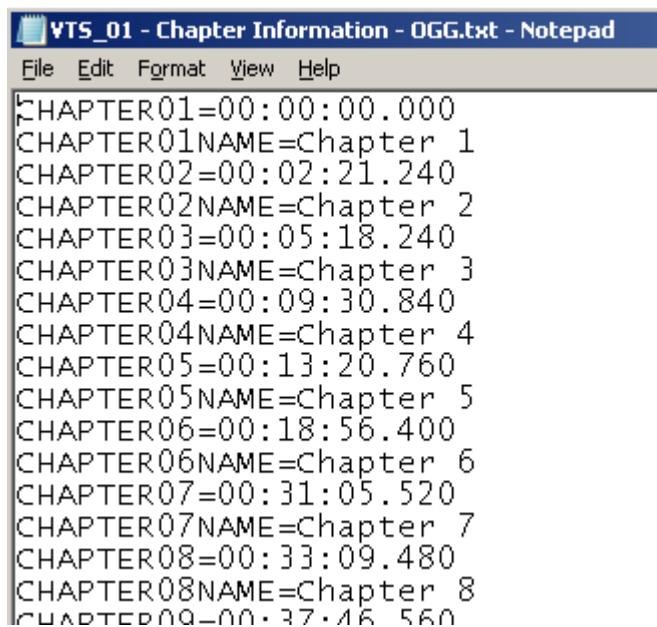
- UPL Editor
- Notepad
- Time Calculator Pro

CALCULATING THE CHAPTER TIMES

If your source is a DVD and if you followed my chapter on copying the DVD to your hard disk then you will have a file in your work folder called **VTS_[number] – Chapter Information – OGG.txt**



This file contains the chapter times as they are present on the DVD.



The screenshot shows a Notepad window titled "VTS_01 - Chapter Information - OGG.txt - Notepad". The menu bar includes File, Edit, Format, View, and Help. The main content area displays the following chapter information:

```
CHAPTER01=00:00:00.000
CHAPTER01NAME=Chapter 1
CHAPTER02=00:02:21.240
CHAPTER02NAME=Chapter 2
CHAPTER03=00:05:18.240
CHAPTER03NAME=Chapter 3
CHAPTER04=00:09:30.840
CHAPTER04NAME=Chapter 4
CHAPTER05=00:13:20.760
CHAPTER05NAME=Chapter 5
CHAPTER06=00:18:56.400
CHAPTER06NAME=Chapter 6
CHAPTER07=00:31:05.520
CHAPTER07NAME=Chapter 7
CHAPTER08=00:33:09.480
CHAPTER08NAME=Chapter 8
CHAPTER09=00:37:16.560
```

While these times work perfectly on the DVD unfortunately they do not on the PSP. If you use the times as you find them in this file they will slowly run out-of-sync compared to the DVD, up to 2 minutes for NTSC movies and up to 7 minutes for PAL movies. Reason why the PAL information is incorrect is clear, as PAL runs at 25 fps, while the encoded movie on your PSP runs at 23.976 fps. So PAL chapters have to be converted, or recalculated.

What seems less obvious is that also the NTSC chapters have to be recalculated. Reason is that during the copy process for NTSC chapters a frame rate of 30 fps is used, while in fact proper NTSC frame rates are either 23.976 fps or 29.97 fps. So there is a slight difference. So what we have to do is convert (recalculate) the chapter times from 30 to 29.97 fps. The times for 29.97 fps fit perfectly on a movie that is running at 23.976 fps, like our Video UMD.

So we will need to start recalculating the times, no matter if our source is a PAL or NTSC DVD. Please note that if your source is a MKV file that includes chapter information, then most likely you don't need to recalculate those times as most MKVs run at 23.976 fps. Unless you use a MKV source that had an Asian source itself, those often run at 24 fps, in which case you would need to recalculate after all.

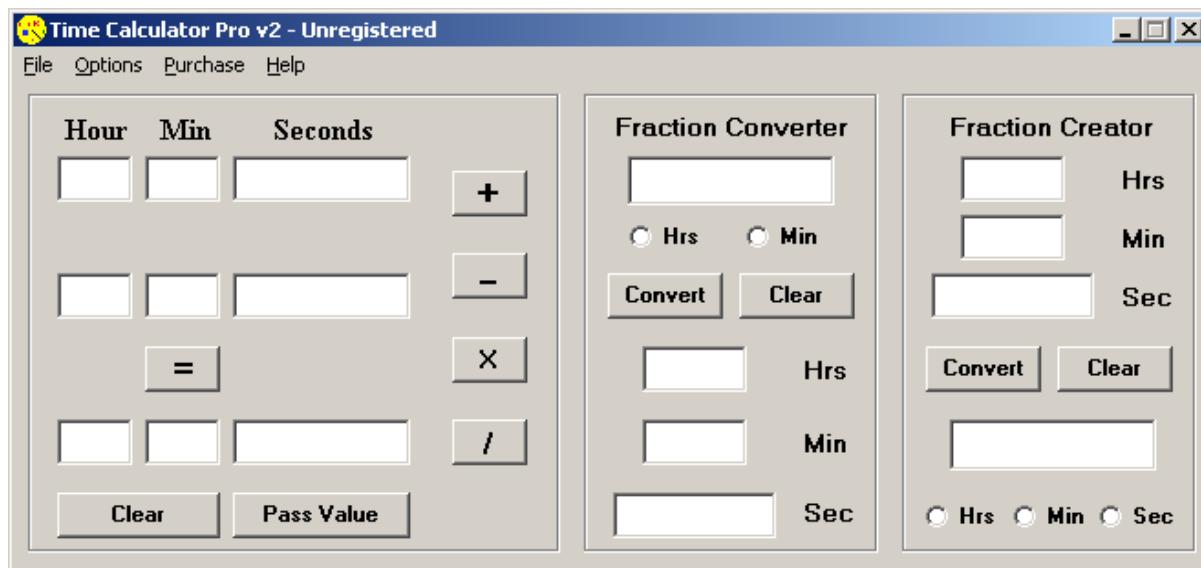
To recalculate the chapters we need to multiply the chapters in our **Chapter Information** text file by a certain value. This value depends on your source.

For **NTSC** sources multiply by **1.001** (30/29.97)

For **PAL** sources multiply by **1.0427** (25/23.976)

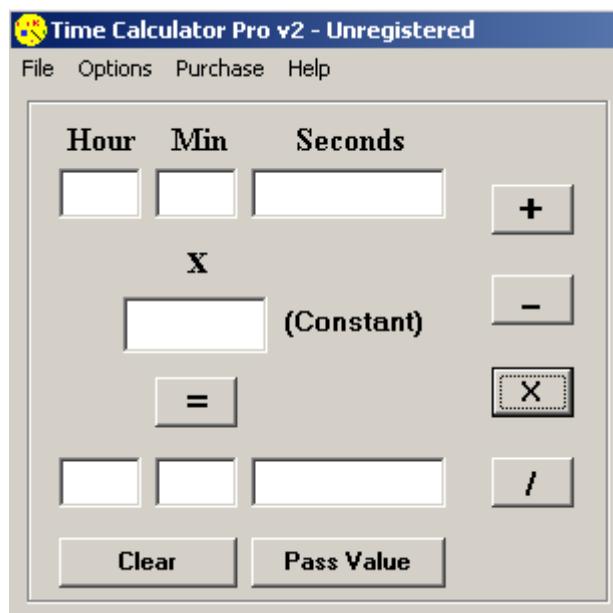
If you use a **24 fps MKV** source then multiply by **1.001** (24/23.976)

We can do this with Time Calculator Pro.



It works fairly simple; we only need the left part of the window.

Start by clicking **X** for multiply. You see the fields change.



In the top three fields fill in the time that you find in the **Chapter Information** text file.

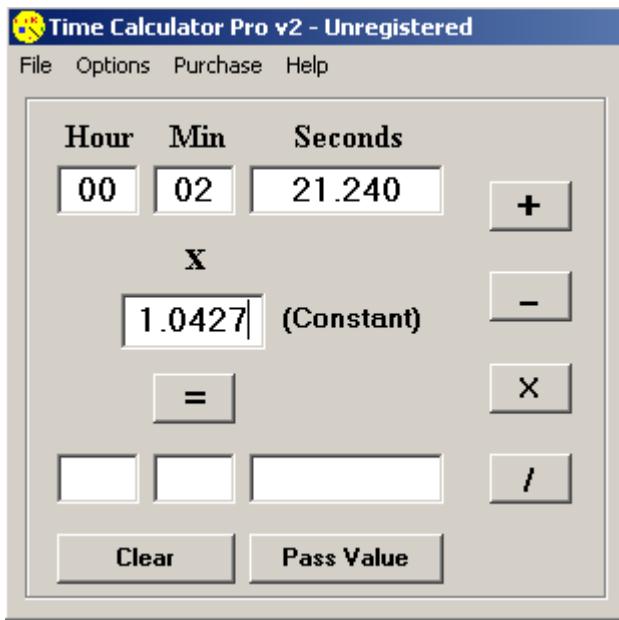
Start with Chapter 02. The first chapter starts at 00:00:00.000 and will always be the same.

After filling in the top fields then fill the middle field with the value that you will multiply with.

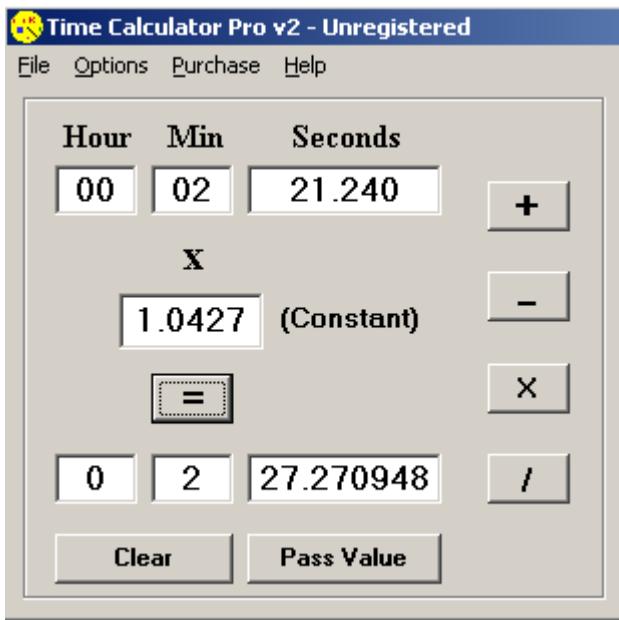
In my case I will be recalculating the chapters for Hoodwinked, which had a **PAL** source.

So the value that I will be using is **1.0427**.

Chapter 02 has a time of 00:02:21.240 in my text file.



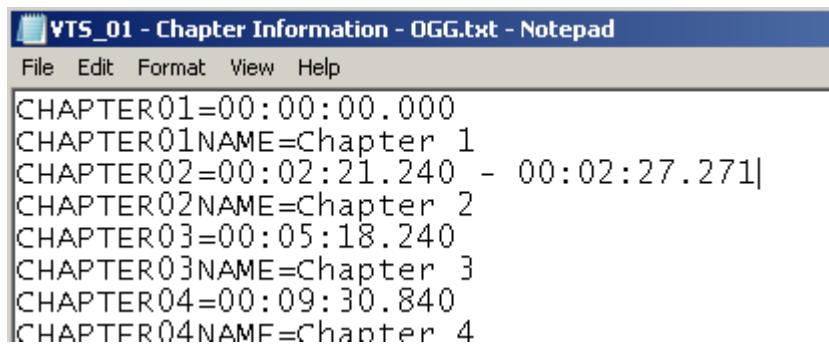
Now simply press the = button to calculate the new time...



The new time for Chapter 02 is **00:02:27.270948**. There are too many digits behind the . (dot). We should have only 3, so we need to round it to 3 digits. As a general rule of thumb I will round up when the fourth digit behind the dot is a 3 or higher. I will round down if the fourth digit behind the dot is a 0, 1 or 2. In this example the fourth digit is a 9, so I will round up.

So the new time for Chapter 02 will be **00:02:27.271**.

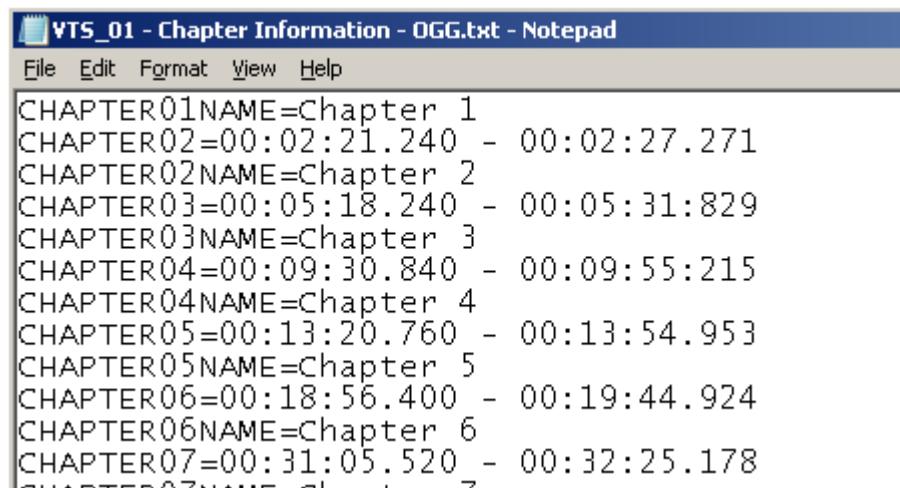
I usually edit the **Chapter Information** text file and add the new time behind the original time.



VTS_01 - Chapter Information - OGG.txt - Notepad

```
File Edit Format View Help
CHAPTER01=00:00:00.000
CHAPTER01NAME=Chapter 1
CHAPTER02=00:02:21.240 - 00:02:27.271
CHAPTER02NAME=Chapter 2
CHAPTER03=00:05:18.240
CHAPTER03NAME=Chapter 3
CHAPTER04=00:09:30.840
CHAPTER04NAME=Chapter 4
```

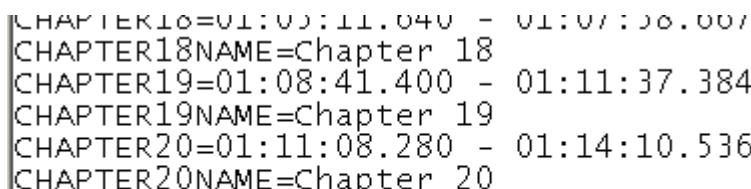
Do the calculation for all the chapters in the file. The result will be something like this:



VTS_01 - Chapter Information - OGG.txt - Notepad

```
File Edit Format View Help
CHAPTER01NAME=Chapter 1
CHAPTER02=00:02:21.240 - 00:02:27.271
CHAPTER02NAME=Chapter 2
CHAPTER03=00:05:18.240 - 00:05:31:829
CHAPTER03NAME=Chapter 3
CHAPTER04=00:09:30.840 - 00:09:55:215
CHAPTER04NAME=Chapter 4
CHAPTER05=00:13:20.760 - 00:13:54.953
CHAPTER05NAME=Chapter 5
CHAPTER06=00:18:56.400 - 00:19:44.924
CHAPTER06NAME=Chapter 6
CHAPTER07=00:31:05.520 - 00:32:25.178
CHAPTER08=01:00:11.040 - 01:01:30.000
CHAPTER18NAME=Chapter 18
CHAPTER19=01:08:41.400 - 01:11:37.384
CHAPTER19NAME=Chapter 19
CHAPTER20=01:11:08.280 - 01:14:10.536
CHAPTER20NAME=Chapter 20
```

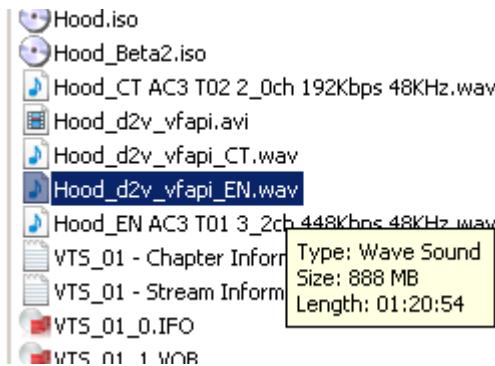
Now let's take a look at the last chapters in the file.



```
CHAPTER10=01:00:11.040 - 01:01:30.000
CHAPTER18NAME=Chapter 18
CHAPTER19=01:08:41.400 - 01:11:37.384
CHAPTER19NAME=Chapter 19
CHAPTER20=01:11:08.280 - 01:14:10.536
CHAPTER20NAME=Chapter 20
```

You see that the last chapter for Hoodwinked starts at 01:14:10.536. This however is not at the end of the movie. This is likely the time where the end titles of the movie start. It is best to also have a chapter completely at the end of the movie, so after the end titles. That way you can skip the end titles and head back to the menu, without having to wait on the end titles to finish scrolling up the screen. Some movies/DVDs provide that final chapter information, some (like in this example Hoodwinked) don't. In this case we will add it ourselves.

The last chapter for Hoodwinked will be **Chapter 21**, which I will add myself. I will set the time for that chapter at **01:20:54.800**. How did I find that time? Simple, go to your folder and find the (in the case of PAL movies converted) WAV file and check how long it is:



This method doesn't give you the number of second behind the dot; I usually set it to .800 which is a good enough value.

Add this to the Chapter Information text file and then **save** it.

```
CHAPTER1/NAME=Chapter 1/
CHAPTER18=01:05:11.640 - 01:07:58.667
CHAPTER18NAME=Chapter 18
CHAPTER19=01:08:41.400 - 01:11:37.384
CHAPTER19NAME=Chapter 19
CHAPTER20=01:11:08.280 - 01:14:10.536
CHAPTER20NAME=Chapter 20

END OF MOVIE - Chapter 21 - 01:20:54.800|
```

You can also see here that the new Chapter 20 time is over 3 minutes further than the original time. In this example it's only a short movie. For movies over 2 hours running time the difference in the last chapter can go up to 7 minutes (for PAL movies). The difference for NTSC movies should be less than 2 minutes, no matter how long the movie.

Fun fact: If you ever come across a Chapter Information text file but forgot if it was for a NTSC or a PAL movie it will be easy to recognize.

All original NTSC chapter times will end with either 00, 33 or 67, nothing else.

All original PAL chapter times will end with a 0 (zero), most commonly 00, 20, 40, 60 and 80.

Here's a small example of NTSC chapter times:

```
CHAPTER06=00:16:51.933
CHAPTER06NAME=Chapter 6
CHAPTER07=00:19:25.267
CHAPTER07NAME=Chapter 7
CHAPTER08=00:25:47.100
CHAPTER08NAME=Chapter 8
CHAPTER09=00:28:07.433
CHAPTER09NAME=Chapter 9
```

Ok, now let us go and set the new times in our UMD.

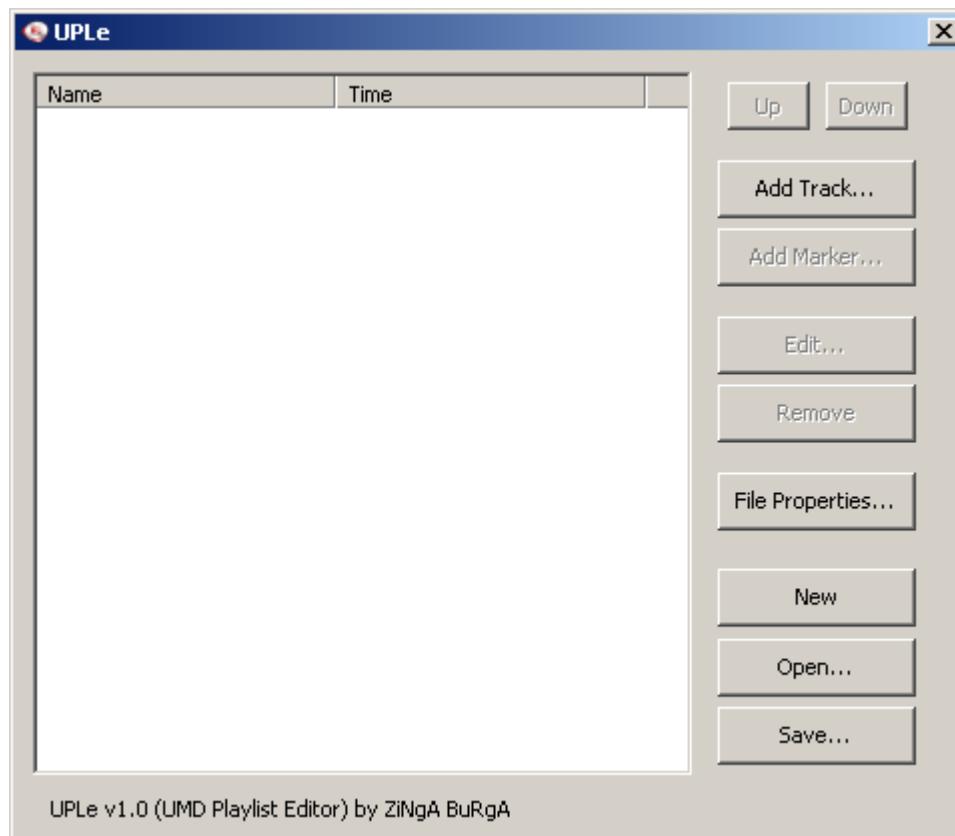
SETTING THE CHAPTER TIMES

Chapter information is set in the **PLAYLIST.UMD** file. This file should be in your work folder in the **Menu** subfolder by now. If it is not then please see the chapter on UMD presentation first.

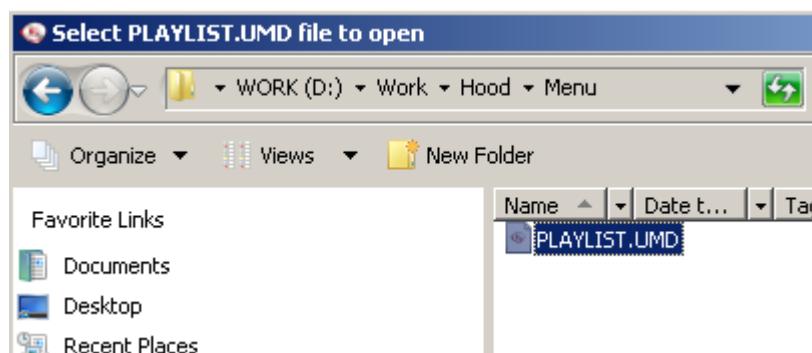
We can open it with **UPL Editor**. UPL Editor is a great little tool as it allows us to change chapter information, as well add and delete chapters, set the movie's play time, make settings for our menu and gives us a lot of information about the files that are present in the UMD.

In this chapter we will primarily look at the chapters and the movie's play time as that is closely linked with it.

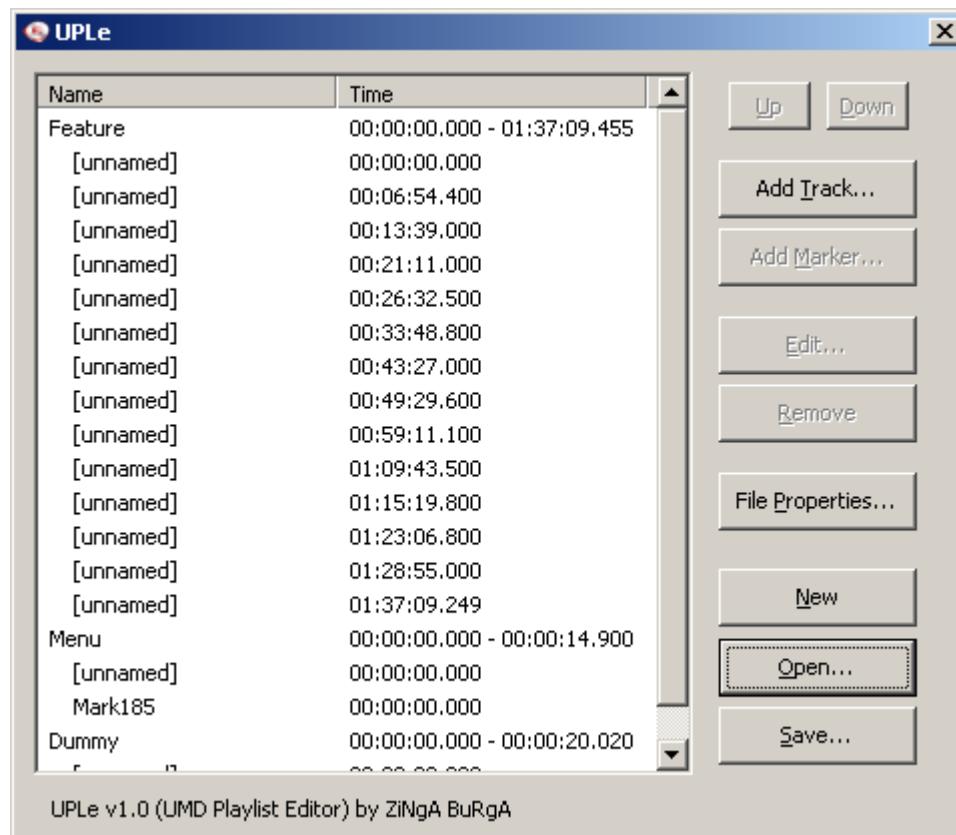
When we start UPL Editor it opens with an empty screen, like the one below.



Click the **Open...** button, locate and select your **PLAYLIST.UMD** file.



Click **Open** to load it.

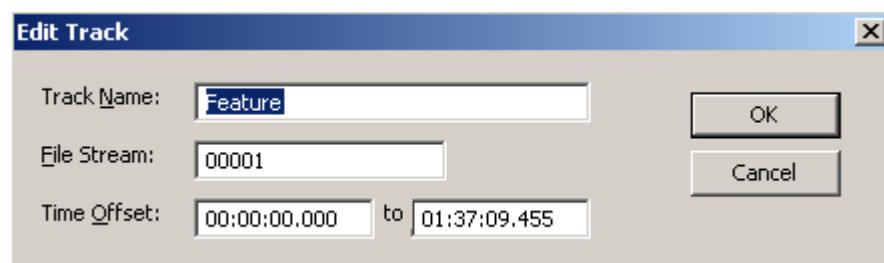


You can see a lot of information here. In the main window (white background) you can see there are basically three tracks listed, Feature, Menu, and Dummy, each with their own sub-items. These refer to the number of MPS files in the UMD. We saw earlier in the chapter on generating the ISO file that the UMD I'm using has three MPS files, 00001.MPS (which is the main movie), 00002.MPS and 00003.MPS. If there are more MPS files in the UMD they will all be listed here with its sub-items.

Note that the names need not be the same. The names are there to make it easier readable for you. They won't be visible anywhere while playing the UMD.

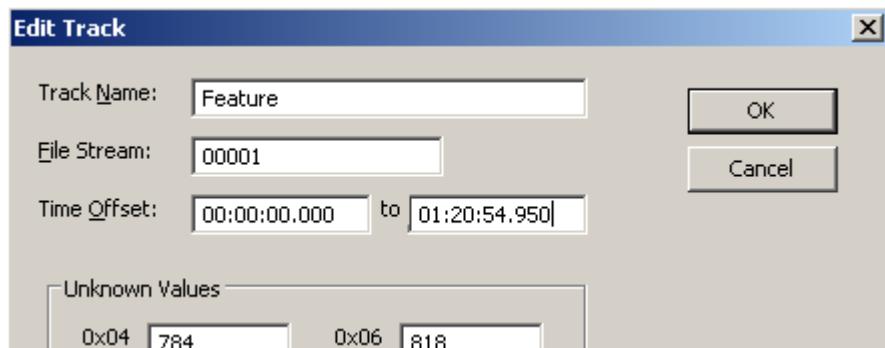
It is usually easy to determine which of the items is the main movie. It will commonly have the most sub-items, which are the chapters; in the example above it is the top item, here named **Feature**.

Double-click the main movie line. The **Edit Track** window opens and you can see the following information:



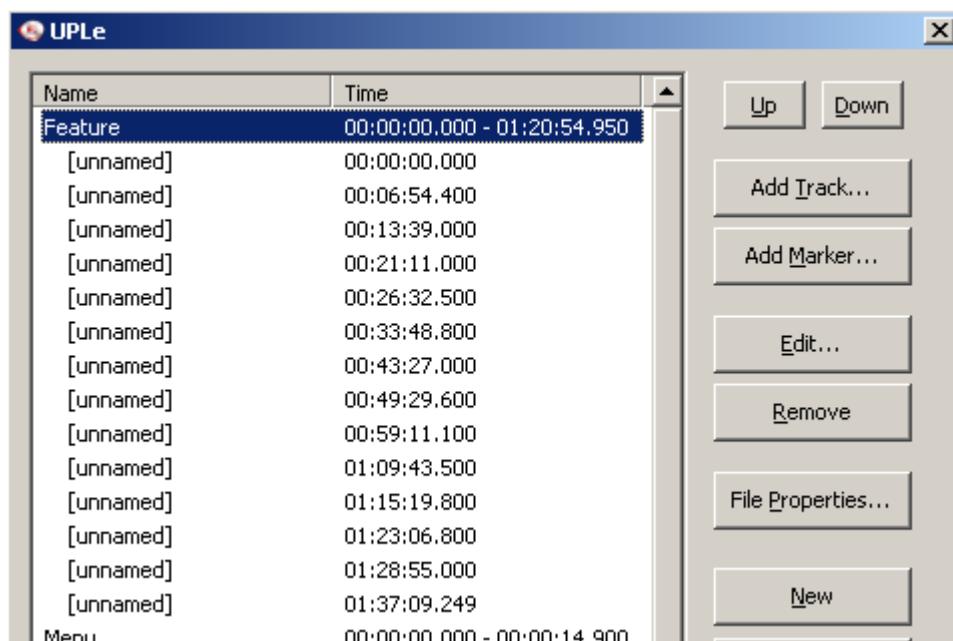
Here you can edit the **Track Name** and the **Time Offset**. You can also see that this item concerns **File Stream** 00001, which is in fact our main movie (00001.MPS). You can also see several other fields that are listed under **Unknown Values** (not shown in the example above). These values are unknown for a reason. We don't know what they are there for. Do **not** edit them. The most important thing we should edit here is the **to** time, which is the end time of the movie.

In my example we had established that the total running time of Hoodwinked is 1:20:54 and we set the last chapter at the end of the movie at 1:20:54.800. Now, the end time we should set here should be a bit longer than that of the last chapter. I will set it to 1:20:54.950.



It is important that you set the correct play time here as it will dictate when the PSP will stop playing the movie. Set it too early and it might stop playing during the movie, set it too late and you might be watching a black screen for a while at the end of the movie.

You can also change the **Track Name** if you wish. I leave mine as it is as it has no effect whatsoever, and I'm happy with the name **Feature**. After you set the Time (and Name) click **OK**.

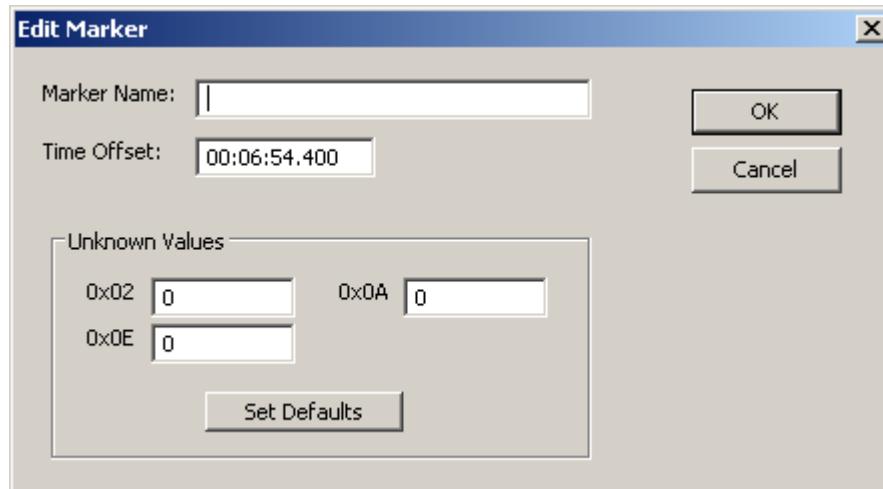


You can see that the time has updated.

Now let us set the chapters.

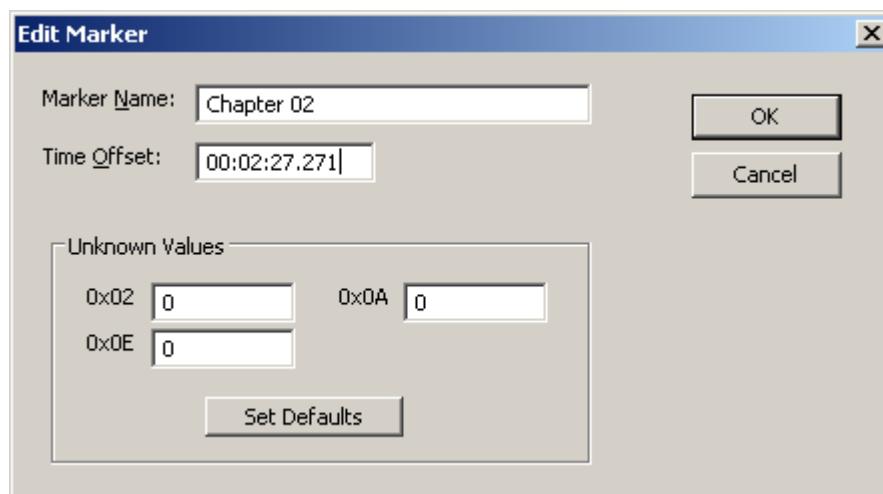
All the chapters are listed under the Main Movie item. In this example they are all called **[unnamed]**. You can edit them in the same way we edited the top line. You can either **double-click** the line or select it and then click **Edit...** The **Edit Marker** window will open.

The first chapter will always be 00:00:00.000 so let's open the second one.



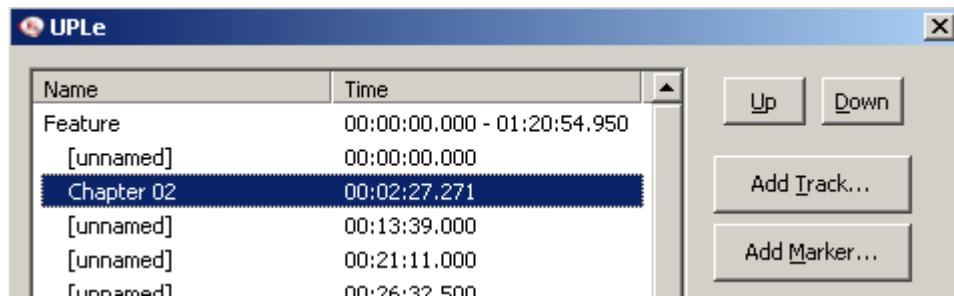
Here there is only one important field, the Time Offset field. Open your **Chapter Information** text file and find the correct time. Then edit the **Time Offset** field. Make sure you don't remove colons (:) and the dot (.). You can see a few **Unknown Values** here as well. Again, do **not** edit them. You could add a **Marker Name** if you think it's easier, however it will not show while playing the movie in your PSP.

Here's my chapter 2:



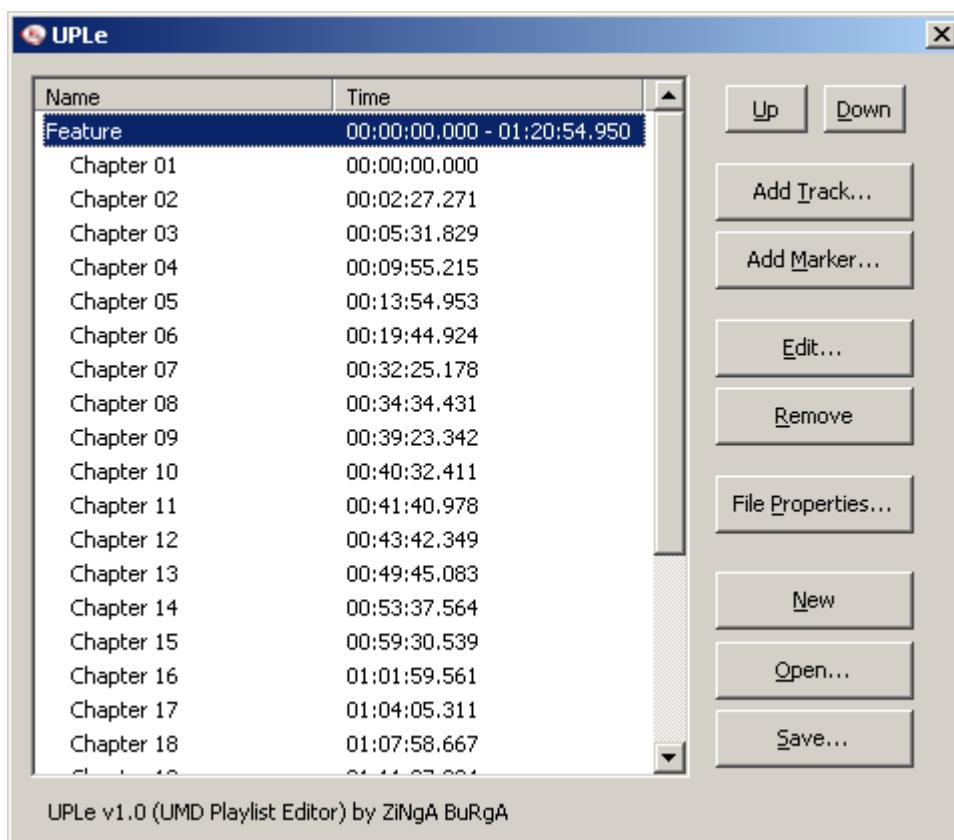
Once you edited the time (and eventually name), click **OK**.

You can see again that the information is updated immediately.



Now set all chapters in the same way. In above example you can see that there are 14 chapters (or Markers) listed. However in my case Hoodwinked has 21 Chapters. You can add Markers by selecting a line and then clicking **Add Marker...**. The **Edit Marker** window will open again and you can set the correct time (and name). The marker/chapter will be added directly **after** the line that you selected. If you have too many chapters you can also delete unneeded markers by selecting them and clicking **Remove**.

The finished chapter list for Hoodwinked will look like this.

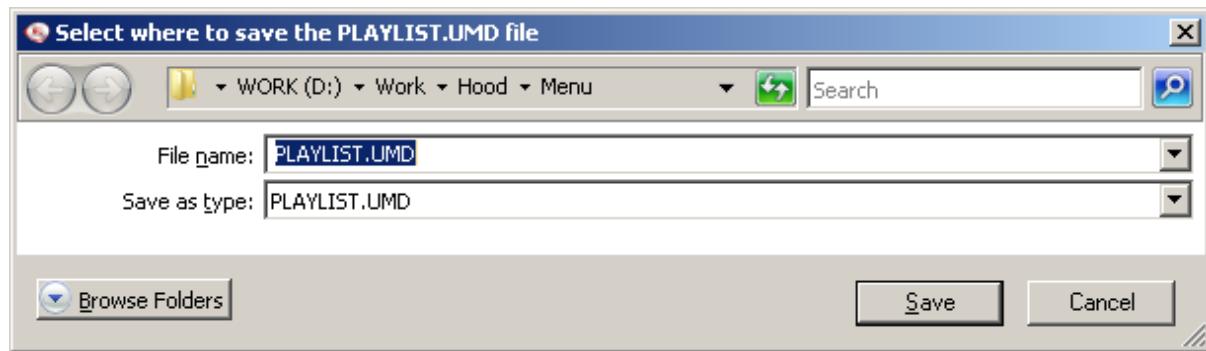


When you added them all, count them to check if you have the correct number of chapters to make sure you didn't miss one somewhere. Do this especially if you don't change the names.

When you are done editing the chapters you can save the file.

Click **Save...**

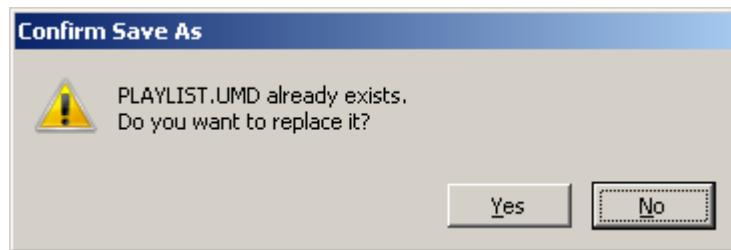
The **Save** window opens.



It will be in the folder where your **PLAYLIST.UMD** file is located.

Click **Save**.

It will find the original file and asks you if you want to replace it.



Click **Yes** to do so.

The chapters for your UMD have now been set and will be active once you add the **PLAYLIST.UMD** file that you just saved back to the ISO. See the chapter on UMD presentation on how to do this.